



CITY OF SUNNYVALE MUNICIPAL CODE

CROSS-CONNECTIONS AND

BACKFLOW PROTECTION

ORDINANCE

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## **Chapter 12.28. CROSS-CONNECTIONS AND BACKFLOW PROTECTION**

### **12.28.010. Definitions—Generally.**

For the purpose of this chapter, unless it is plainly evident from the context that a different meaning is intended, certain terms used herein are defined in Sections 12.28.020 to 12.28.180. (Ord. 1402 § 1, 1967; prior code § 11-1.101).

### **12.28.020. Air gap separation defined.**

“Air gap separation” means a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch. (Ord. 1402 § 1, 1967; prior code § 11-1.101(a)).

### **12.28.030. Approved check valve defined.**

“Approved check valve” means a check valve that seats readily and completely. It must be carefully machined to have free-moving parts and assured watertightness. The face of the closure element and valve seat must be bronze, composition, or other noncorrodible material which will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other noncorrodible, nonsticking material, machined for easy, dependable operation. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable. (Ord. 1402 § 1, 1967; prior code § 11-1.101(b)).

### **12.28.040. Approved double check valve assembly defined.**

“Approved double check valve assembly” means an assembly of at least two independently acting approved check valves including tightly closing shutoff valves on each side of the check valve assembly and suitable leak detector drains plus connections available for testing and watertightness of each check valve. Unless otherwise authorized by the director, a pressure relief valve, rated at no more than fifty p.s.i. greater than the water service pressure, shall be installed on the downstream side of the double check valve assembly. (Ord. 1402 § 1, 1967; prior code 11-1.101(c)).

### **12.28.050. Approved reduced pressure principle backflow prevention device defined.**

“Approved reduced pressure principle backflow prevention device” means a device incorporating two or more check valves and an automatically operating differential relief valve located between the two checks, two shutoff valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between the two check valves, less than the pressure on the public water supply side of the device. At cessation of normal flow the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere thereby providing an air gap in

the device. To be approved these devices must be readily accessible for maintenance and testing and installed in a location where no part of the device will be submerged. Unless otherwise authorized by the director, a pressure relief valve, rated at no more than fifty p.s.i. greater than the water service pressure, shall be installed on the downstream side of the reduced pressure principle backflow prevention device. (Ord. 1402 § 1, 1967; prior code § 11-1.101(d)).

**12.28.060. Approved water supply defined.**

“Approved water supply” means any water supply approved by, or under the public health supervision of, a public health agency of the state of California, the county of Santa Clara, or the city of Sunnyvale. In determining what constitutes an approved water supply, the Department of Public Health of the state of California (herein called State Department of Public Health) shall have the final judgment as to its safety and potability. (Ord. 1402 § 1, 1967; prior code § 11-1.101(e)).

**12.28.070. Auxiliary water supply defined.**

“Auxiliary water supply” means any water supply on or available to the premises other than the city water supply. (Ord. 1402 § 1, 1967; prior code § 11-1.101(f)).

**12.28.080. City defined.**

“City” means the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(g)).

**12.28.090. City health officer defined.**

“City health officer” means the Santa Clara County health officer, his assistants, or authorized deputies acting as, or any other person appointed as, health officer of the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(h)).

**12.28.100. City water supply defined.**

“City water supply” means an approved water supply sold and delivered to consumers’ premises through the waterworks system of the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(i)).

**12.28.110. Consumer defined.**

“Consumer” means any person to whom water is sold and furnished from the city water supply by the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(j)).

**12.28.120. Contamination defined.**

“Contamination” means an impairment of the quality of the city water supply by the presence of any foreign substance (organic, inorganic, radiological or biological) to a degree which creates a hazard to the public health through poisoning or through the spread of disease. (Ord. 1402 § 1, 1967; prior code § 11-1.101(k)).

#### **12.28.130. Cross-connection defined.**

“Cross-connection” means any unprotected connection between any part of the city waterworks system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome, and potable for human consumption. (Ord. 1402 § 1, 1967; prior code § 11-1.101(l)).

#### **12.28.140. Director defined.**

“Director” means the director of public works of the city of Sunnyvale, or his authorized representatives. (Ord. 1402 § 1, 1967; prior code § 11-1.101(m)).

#### **12.28.150. Person defined.**

“Person” means any natural person, firm, association, organization, partnership, trust or association of persons, joint venture, corporation, or company, and includes the United States, the state of California, the county of Santa Clara, any special purpose district, and any officer or agent thereof. (Ord. 1402 § 1, 1967; prior code § 11-1.101(n)).

#### **12.28.160. Premises defined.**

“Premises” means integrated land area including improvements thereon undivided by public thoroughfares or water distribution mains of the city of Sunnyvale and where all parts of the premises are operated under the same management and for the same purpose. (Ord. 1402 § 1, 1967; prior code § 11-1.101(o)).

#### **12.28.170. Protective device defined.**

“Protective device” means any of the following devices:

- (a) Air gap separation;
- (b) Approved reduced pressure principle backflow prevention device; or
- (c) Approved double check valve assembly. (Ord. 1402 § 1, 1967; prior code § 11-1.101(p)).

#### **12.28.180. Service connection defined.**

“Service connection” means the terminal end of a service connection from the city water supply at its point of delivery to the consumer. If a meter is installed “service connection” means the downstream end of the meter. No unprotected takeoffs from the service line ahead of any meter or backflow protective device located at the point of delivery to the consumer shall be permitted. (Ord. 1402 § 1, 1967; prior code § 11-1.101(q)).

#### **12.28.190. Where protection required—Auxiliary water supply.**

(a) Each service connection from the city water supply for furnishing water to premises having an auxiliary water supply shall be protected against backflow of water from the premises into the city water supply, unless the auxiliary water supply is an approved water supply or is accepted as an additional source by the director and is approved by the State Department of Public Health.

(b) If the auxiliary water supply is not an approved water supply, or if it is not accepted as an additional source and approved in the manner specified above, and the auxiliary water supply is handled in a separate piping system with no known cross-connection, the city water supply shall be protected by an approved double check valve assembly installed at the service connection to the premises. When the auxiliary water supply may be contaminated, the director may order the city water supply protected by an air gap separation or an approved reduced pressure principle backflow prevention device installed at the service connection.

(c) If the auxiliary water supply is not an approved water supply, or if it is not accepted as an additional source and approved in the manner specified above, and cross-connections are known to exist between the city water supply and the auxiliary water supply which cannot presently be eliminated, the city water supply shall be protected by an approved reduced pressure principle backflow prevention device installed at the service connection to the premises. A double check valve assembly may be used in lieu of such device if the experience of the director indicates that double check valves are reliably operated, and if approved by the director and the city health officer.

When the auxiliary water supply may be contaminated, the director may order the city water supply protected by an air gap separation installed at the service connection. (Ord. 1402 § 1, 1967; prior code § 11-1.102(a)).

#### **12.28.200. Where protection required—Toxic or hazardous substances under pressure.**

At the service connection to any premises on which any material dangerous to health or toxic substance in toxic concentration is or may be handled under pressure, the city water supply shall be protected by an air gap separation. The air gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot reasonably be met, the city water supply shall be protected with an approved reduced pressure principle backflow prevention device which is acceptable to both the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(b)).

#### **12.28.210. Where protection required—Toxic or hazardous substances not under pressure.**

At the service connection to any premises on which any material dangerous to health or toxic substance in toxic concentration is not handled under pressure but is otherwise handled in such a manner as to constitute a cross-connection, the city water supply shall be protected by an approved reduced pressure principle backflow prevention device, unless such cross-connection is abated to the satisfaction of the director and approved by the city health officer. An approved double check valve assembly may be used in lieu of such device if experience indicates that double check valves are reliably operated and if approved by the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(c)).

#### **12.28.220. Where protection required—Nonhazardous substances.**

At the service connection to any premises on which a substance that would be objectionable (but not necessarily hazardous to health) if introduced into the city water supply is handled in such a manner as to constitute a cross-connection, the city water supply shall be protected by an approved double check valve assembly unless such cross-connection is abated to the satisfaction of the director and approved by the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(d)).

#### **12.28.230. Where protection required—Sewage treatment plants and pumping stations.**

At the service connection to any sewage treatment plant or sewage pumping station, the city water supply shall be protected by an air gap separation. The air gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot be reasonably met, the city water supply shall be protected with an approved reduced pressure principle backflow prevention device, providing this alternative is acceptable to both the director and the city health officer. A final decision in this matter shall be made by the State Department of Public Health. (Ord. 1402 § 1, 1967; prior code § 11-1.102(e)).

#### **12.28.240. Where protection required—Substances flowing from premises to city water supply.**

Each service connection from the city water supply for furnishing water to premises on which any substance is or may be handled in such a manner as to permit entry into the city water supply shall be protected against backflow of the substance from the premises into the city water supply. This shall include the handling of process waters and waters originating from the city water supply which have been subject to change in quality. (Ord. 1402 § 1, 1967; prior code § 11-1.102(f)).

#### **12.28.250. Where protection required—Premises having internal cross-connections.**

Backflow protective devices shall be installed on the service connection to any premises that have internal cross-connections unless such cross-connections are abated to the satisfaction of the director and approved by the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(g)).

#### **12.28.260. Where protection required—Consumer responsibility.**

It shall be the responsibility of each consumer at his own expense to furnish, install, and keep in good working order and safe condition any and all protective devices required in this chapter. The city shall not be responsible for any loss or damage directly or indirectly resulting from or caused by the improper or negligent installation, operation, use, repair or maintenance of, or interfering with, any protective device by any consumer or any other person. (Ord. 1402 § 1, 1967; prior code § 11-1.102(h)).

#### **12.28.270. Where protection required—Conflicts.**

Whenever two or more conditions exist on any premises for the correction of which different protective devices are required in this chapter, the consumer shall be required only to install the protective device which, in the opinion of the director and city health officer, affords the maximum protection to the city water supply. (Ord. 1402 § 1, 1967; prior code § 11-1.102(i)).

**12.28.280. Inspections—Required—Repair or replacement—Records—Cost.**

The consumer on whose premises any protective device is installed shall have each such device inspected annually. If successive inspections disclose repeated failures in the operation of any device, the director may require more frequent inspections. Each device shall be repaired, overhauled or replaced at the expense of the consumer whenever it is found to be defective. Records of such tests, repairs, and overhauls shall be kept and made available to the director and the city health officer. The director shall have the duty of determining that the inspections required herein are performed properly. If following demand therefor the consumer fails to have any of the inspections made as required herein or to make the above-described records available, the director shall have the right to inspect the device and the consumer shall pay the cost thereof. The cost of any inspection made by the director shall be included as a part of the next ensuing municipal water bill presented to the consumer. (Ord. 1402 § 1, 1967; prior code § 11-1.103).

**12.28.290. Noncompliance—Protection required for service connection.**

No water service connection shall be installed on the premises of any consumer unless the city water supply is protected as required by this chapter. (Ord. 1402 § 1, 1967; prior code § 11-1.104(a)).

**12.28.300. Noncompliance—Discontinuance of service.**

Delivery of water to the premises of any consumer may be discontinued by the director if any protective device required by this chapter has not been installed, inspected, tested and maintained, or is defective, or has been removed or bypassed. (Ord. 1402 § 1, 1967; prior code § 11-1.104(b)).

**12.28.310. Noncompliance—Discontinuance without notice when.**

Delivery of water shall be discontinued immediately and without notice to the consumer if the director or city health officer determines that:

(a) The city water supply is being contaminated or is in immediate danger of contamination;

(b) A protective device required by this chapter has not been installed, or is defective, or has been removed or bypassed; and

(c) The consumer cannot immediately be located. Delivery of water shall not be resumed until any protective device required by this chapter and approved by the director has been properly installed, or until conditions at the consumer's premises causing the contamination or

danger of contamination have been abated or corrected to the satisfaction of the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.104(c)).

#### **12.28.320. Noncompliance—Discontinuance—Notice.**

(a) Except as provided in Section 12.28.310, delivery of water shall not be discontinued until written notice thereof has been given to the consumer.

(b) The notice shall state:

(1) The conditions or defects which must be corrected;

(2) The manner in which the stated conditions or defects are to be corrected; and

(3) The date on or after which delivery of water will be discontinued, and which shall not be less than fifteen nor more than ninety days following the date of delivery or mailing of the notice.

(c) The director may grant the consumer an extension of an additional period not to exceed ninety days if he determines the consumer has exercised due diligence but has been unable to comply with the notice within the time originally allowed.

(d) The notice shall be given by delivering the same to the consumer, the manager or agent thereof, or to any person in charge of, or employed in the place of business of the consumer; or, the consumer has no place of business, then at the place of residence of the consumer if known, or by leaving the notice at either the place of business or the residence of the consumer. If the consumer cannot be found and service of the notice cannot be made in the manner provided herein, then a copy of the notice shall be mailed, postage fully prepaid, addressed to the consumer at the place of business or residence set forth in the application of consumer for water service in the records of the city.

(e) Once discontinued, delivery of water shall not be resumed until any protective device required by this chapter and approved by the director has been properly installed, or until the conditions at the consumer's premises creating the need for a protective device have been abated or corrected to the satisfaction of the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.104(d)).

#### **12.28.330. Noncompliance—Right of entry for inspections.**

For the purpose of making any inspections or discharging the duties imposed by this chapter, the director and city health officer shall have the right to enter upon the premises of any consumer. Each consumer as a condition of the continued delivery to his premises of water from the city water supply shall be considered as having stated his consent to the entry upon his premises of the director and city health officer for the purposes stated herein. (Ord. 1402 § 1, 1967; prior code § 11-1.104(e)).